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H.D.

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,619	11/24/2003	Harumi Suzuki	01-510	1296
23400 7590 03/02/2007 POSZ LAW GROUP, PLC 12040 SOUTH LAKES DRIVE SUITE 101 RESTON, VA 20191			EXAMINER SUCH, MATTHEW W	
			ART UNIT	PAPER NUMBER
			2891	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/02/2007	PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	Application No.	Applicant(s)	
	10/718,619	SUZUKI ET AL.	
	Examiner	Art Unit	
	Matthew W. Such	2891	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 07 December 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,3-12,14,16,20,21 and 34-43 is/are pending in the application.
- 4a) Of the above claim(s) 3-10 and 34-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,11,12,14,16,20,21 and 37-43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)            | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/3/06 &amp; 11/24/03</u> .                                   | 6) <input type="checkbox"/> Other: _____                          |

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 and 37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. The claims recite “the electric field intensity of the organic layer is  $3E6$  V/cm or greater” however the claim does not explicitly define exactly how this is calculated. For the purposes of examination, the Examiner provisionally interprets that the electric field intensity of the organic layer can be derived from the ratio of the voltage applied across the organic layer to the thickness of the organic layer. Claim 1 further requires that “the thickness of the upper electrodes is represented as  $D_a$ ”, but it is unclear how this value would relate to the electric field intensity in the organic layer. For the purposes of examination, the Examiner interprets the phrase to be “thickness of an organic layer”, as the limitation is recited in claim 37. Furthermore, the claims recite that “the backward bias voltage is represented by  $V_r$ ”, but does not require that the backward bias voltage is required for determining the electric field intensity. The Examiner notes that a forward bias also results in electric field intensity. The claim also appears to require that both of the following mutually exclusive conditions simultaneously: (i) that the electric field intensity is  $3E6$  V/cm or greater AND (ii) that the value of the ratio  $V_r/D_a$  (which appears to be

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nothing more than the electric field intensity of the organic layer), which is 2.2E6 V/cm or greater for claim 1 and from 2.0E6 to 2.2E6 V/cm for claim 37.

***Claim Rejections - 35 USC § 102***

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. In so far as definite, claims 1, 11-12, 14, 16, 20 and 37-42 are rejected under 35 U.S.C. 102(b) as being anticipated by Yamazaki ('152).

5. Regarding claim 1, Yamazaki teaches an organic EL panel comprising a plurality of pixels (Figs. 4A and 6A), wherein each of the pixels comprises an organic layer disposed (Alq3, NPD, MTDATA, PEDOT, CuPc, etc. in Figs. 9A and 9B) between a lower electrode (Anode, for example) and an upper electrode (Cathode, for example). The plurality of pixels have a self-healing property (Para. 0164-0170, for example). The organic layer includes a light-emitting layer between the lower and upper electrode (see Figs. 9A and 9B, for example).

The Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See, e.g., *In re Pearson*, 18 1 USPQ 641

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(CCPA); *In re Minks*, 169 USPQ 120 (Bd Appeals); *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963); See MPEP §2114. The recitations of “having a driving voltage waveform for a backward bias voltage” and “by an application of the backward bias voltage equal to or less than a withstand voltage of the organic layer in a voltage application condition at a time of use” and “the withstand voltage of the organic layer is expressed as an electric field, intensity per unit thickness of the organic layer, the electric field intensity of the organic layer is  $3E6$  V/cm or greater, the backward bias voltage is represented as  $V_r$ , the thickness of the upper electrodes is represented as  $D_a$ , the ratio  $V_r/D_a$  between  $V_r$  and  $D_a$  is represented as  $X_a$ , and  $X_a$  is  $2.2E6$  V/cm or greater” does not distinguish the present invention over the prior art of Yamazaki who teaches the structure as claimed.

6. Regarding the entirety of claims 11-12 and 14, the Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

See, e.g., *In re Pearson*, 18 1 USPQ 641 (CCPA); *In re Minks*, 169 USPQ 120 (Bd Appeals); *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963); See MPEP §2114. The entirety of claims 11-12 and 14 recitations are intended use recitations which do not distinguish the present invention over the prior art of Yamazaki who teaches the structure as claimed.

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7. Regarding claim 16, Yamazaki teaches that the upper electrode (cathode) can be, for example, 50 nanometers thick (Para. 0165).

8. Regarding claim 20, the language, term, or phrase “the plurality of pixels are sealed with an inert gas including a first gas that increases susceptibility to burn and a concentration of the first gas in the inert gas is 0.5% or more”, is directed towards the process of making a plurality of pixels. It is well settled that “product by process” limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. In re *Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, In re *Brown*, 173 USPQ 685; In re *Luck*, 177 USPQ 523; In re *Fessmann*, 180 USPQ 324; In re *Avery*, 186 USPQ 161; In re *Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); In re *Marosi et al.*, 218 USPQ 289; and particularly In re *Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or otherwise. The above case law further makes clear that applicant has the burden of showing that the method language necessarily produces a structural difference. As such, the language “the plurality of pixels are sealed with an inert gas including a first gas that increases susceptibility to burn and a concentration of the first gas in the inert gas is 0.5% or more” only requires a plurality of pixels, which does not distinguish the invention from Yamazaki, who teaches the structure as claimed.

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9. Regarding claim 37, Yamazaki teaches an organic EL panel comprising a plurality of pixels (Figs. 4A and 6A), wherein each of the pixels comprises an organic layer disposed (Alq3, NPD, MTDATA, PEDOT, CuPc, etc. in Figs. 9A and 9B) between a lower electrode (Anode, for example) and an upper electrode (Cathode, for example). The plurality of pixels have a self-healing property (Para. 0164-0170, for example). The organic layer includes a light-emitting layer between the lower and upper electrode (see Figs. 9A and 9B, for example).

The Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See, e.g., *In re Pearson*, 18 1 USPQ 641 (CCPA); *In re Minks*, 169 USPQ 120 (Bd Appeals); *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963); See MPEP §2114. The recitations of “having a driving voltage waveform for a backward bias voltage” and “by an application of the backward bias voltage equal to or less than a withstand voltage of the organic layer in a voltage application condition at a time of use” and “the withstand voltage of the organic layer is expressed as an electric field, intensity per unit thickness of the organic layer, the electric field intensity of the organic layer is 3E6 V/cm or greater, the backward bias voltage is represented as  $V_r$ , the thickness of the organic layer is represented as  $D_y$ , the ratio  $V_r/D_y$  between  $V_r$  and  $D_y$  is represented as  $Y_a$ , and  $Y_a$  is 2.0E6 V/cm or greater and 2.2E6 V/cm or less” does not distinguish the present invention over the prior art of Yamazaki who teaches the structure as claimed.

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10. Regarding the entirety of claims 38-41, the Examiner notes that a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim. See, e.g., *In re Pearson*, 18 1 USPQ 641 (CCPA); *In re Minks*, 169 USPQ 120 (Bd Appeals); *In re Casey*, 152 USPQ 235 (CCPA 1967); *In re Otto*, 136 USPQ 458, 459 (CCPA 1963); See MPEP §2114. The entirety of claims 11-12 and 14 recitations are intended use recitations which do not distinguish the present invention over the prior art of Yamazaki who teaches the structure as claimed.

11. Regarding claim 42, the language, term, or phrase “the plurality of pixels are sealed with an inert gas including a first gas that increases susceptibility to burn and a concentration of the first gas in the inert gas is 0.5% or more”, is directed towards the process of making a plurality of pixels. It is well settled that “product by process” limitations in claims drawn to structure are directed to the product, per se, no matter how actually made. *In re Hirao*, 190 USPQ 15 at 17 (footnote 3). See also, *In re Brown*, 173 USPQ 685; *In re Luck*, 177 USPQ 523; *In re Fessmann*, 180 USPQ 324; *In re Avery*, 186 USPQ 161; *In re Wethheim*, 191 USPQ 90 (209 USPQ 554 does not deal with this issue); *In re Marosi et al.*, 218 USPQ 289; and particularly *In re Thorpe*, 227 USPQ 964, all of which make it clear that it is the patentability of the final product per se which must be determined in a “product by process” claim, and not the patentability of the process, and that an old or obvious product produced by a new method is not patentable as a product, whether claimed in “product by process” claims or otherwise. The above case law further makes clear



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that applicant has the burden of showing that the method language necessarily produces a structural difference. As such, the language “the plurality of pixels are sealed with an inert gas including a first gas that increases susceptibility to burn and a concentration of the first gas in the inert gas is 0.5% or more” only requires a plurality of pixels, which does not distinguish the invention from Yamazaki, who teaches the structure as claimed.

***Claim Rejections - 35 USC § 103***

12. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

13. Claims 21 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki ('152) in view of Wada ('833).

Yamazaki teaches the device of claims 1 and 37 wherein the lower electrode (anode) comprises an ITO material (Para. 0165, for example). However, Yamazaki is silent regarding the surface roughness of the anode material.

Wada teaches organic EL devices with an ITO anode (Para. 0047). Wada further teaches that the anode surface roughness can be, for example, 1 nanometer (Para. 0047). It would have been obvious to one of ordinary skill in the art at the time the invention was made to set the surface roughness to, for example, 1 nanometer in order to prevent electric field concentration during the use of the device, which can result in discharge and form dark points (Wada Para.

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0047). Wada teaches that one would be further motivated to use a low surface roughness, such as 1 nanometer, in order to maintain durability of the device.

***Response to Arguments***

14. Applicant's arguments with respect to claims 1, 11-12, 14, 16, 20-21 and 37-43 have been considered but are moot in view of the new ground(s) of rejection.

15. Applicant's arguments filed 7 December 2006 regarding the Restriction Requirement of 26 June 2006 have been fully considered but they are not persuasive. The Applicant argues that since the subject matter of claims 3-10 are dependant they cannot represent an independent invention.

In response, the Examiner notes that the Restriction Requirement of 26 June 2006 did not assert that the Inventions were independent, but that they are distinct.

The Applicant further argues that combination/subcombination must be separately claimed and since claim 1 is common to both inventions, the restriction is improper.

In response, the Inventions II and III are distinct as shown in the restriction requirement of 26 June 2006. Although the subject matter Inventions II and III share subject matter as related to claim 1, The Examiner notes that claim 1 is a linking claim between the inventions II and III. The restriction requirement between the linked inventions is **subject to** the nonallowance of the linking claim(s), claim 1. Upon the indication of allowability of the linking claim(s), the restriction requirement as to the linked inventions **shall** be withdrawn and any claim(s) depending from or otherwise requiring all the limitations of the allowable linking claim(s) will

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be rejoined and fully examined for patentability in accordance with 37 CFR 1.104 **Claims that require all the limitations of an allowable linking claim** will be entered as a matter of right if the amendment is presented prior to final rejection or allowance, whichever is earlier.

Amendments submitted after final rejection are governed by 37 CFR 1.116; amendments submitted after allowance are governed by 37 CFR 1.312. Applicant(s) are advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, the allowable linking claim, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application. Where a restriction requirement is withdrawn, the provisions of 35 U.S.C. 121 are no longer applicable. *In re Ziegler*, 443 F.2d 1211, 1215, 170 USPQ 129, 131-32 (CCPA 1971). See also MPEP § 804.01. When restriction has been required and the applicant elects a subcombination, and claims thereto are subsequently found allowable, any claim(s) depending from or otherwise requiring all the limitations of the allowable subcombination will be examined for patentability in accordance with 37 CFR 1.104. See MPEP § 821.04(a). Applicant is advised that if any claim presented in a continuation or divisional application is anticipated by, or includes all the limitations of, a claim that is allowable in the present application, such claim may be subject to provisional statutory and/or nonstatutory double patenting rejections over the claims of the instant application.

### ***Conclusion***

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

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Mikhal ('677), Tang ('678), Kimura ('178) each teach various devices and methods of use for self-healing organic electroluminescent devices.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

#### ***Contact Information***

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew W. Such whose telephone number is (571) 272-8895. The examiner can normally be reached on Monday - Friday 9AM-5PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bradley W. Baumeister can be reached on (571) 272-1722. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Matthew W. Such  
Examiner  
Art Unit 2891

MWS  
2/22/07



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